

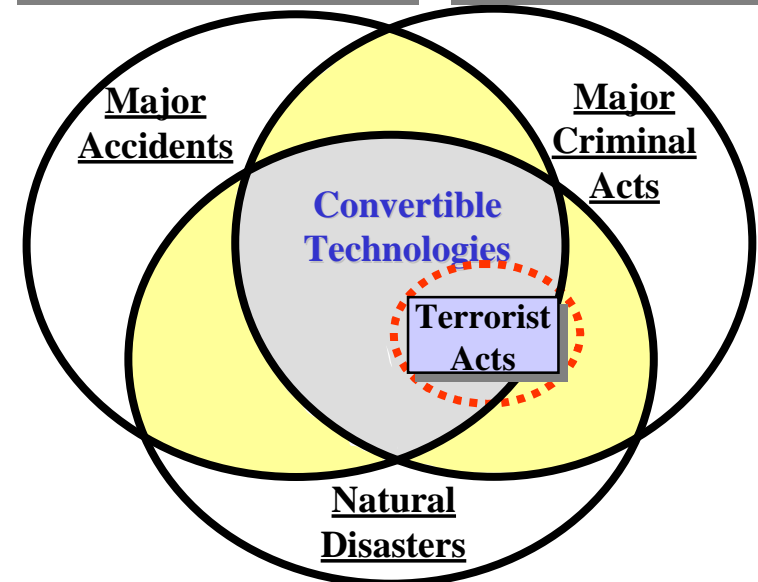
National Institute of Justice



Critical Incident Technology Initiative

Critical Incident Response Technology Initiative

- Provide better tools to deal with major threats to lives and property
 - ⇒ Natural disasters, industrial accidents, major criminal acts
 - Including terrorism & school security
- Develop needed technologies & standards
 - ⇒ LE unique and shared with other public safety disciplines
 - ⇒ In concert with related efforts
- Outgrowth of NIJ Counterterrorism Program
 - ⇒ Initiated pursuant to AntiTerrorism and Effective Death Penalty Act of 1996
 - ⇒ To address state and local LE responder needs
 - ⇒ Found many needs were common to the responder community and to other types of critical incidents



Program Overview

- Five technology focus areas:
 - ⇒ Infrastructure Security
 - ⇒ Personnel Location
 - ⇒ Explosive Detection and Remediation
 - ⇒ Communications, Information & Training Technology
 - ⇒ Chemical and Biological Defense
- Counterterrorism Institutes
- Includes needs assessments and standards development
- Managed by the NIJ Office of Science & Technology (OS&T)
 - ⇒ Involves all OS&T functional areas

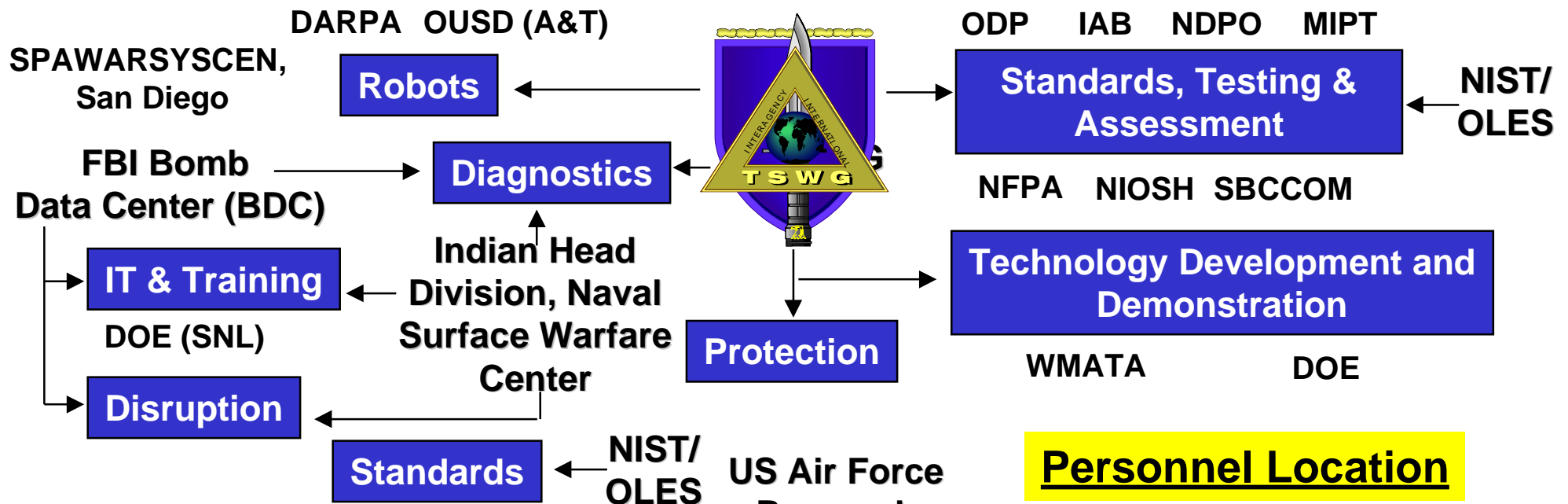
Forum Participation

- Technical Support Working Group (TSWG)
 - ⇒ Federal Agencies involved in combating terrorism
 - ⇒ Sponsors quick turn around (18 mth) R&D
- National Science and Technology Council Antiterrorism Taskforce
 - ⇒ Chartered to coordinate Federal response to terrorism
- National Domestic Preparedness Office (NDPO)
 - ⇒ Central clearinghouse for first responder information
- Interagency Board for Equipment Standardization and Interoperability (IAB)
 - ⇒ Responder community forum for identifying equipment needs and standards
 - ⇒ Local, state and federal agencies represented
- Office for Domestic Preparedness (ODP)
 - ⇒ Equipment & training grants to State and local responder agencies
- DOJ sponsored Technology Policy Council
 - ⇒ Forum for federal law enforcement R&D agencies

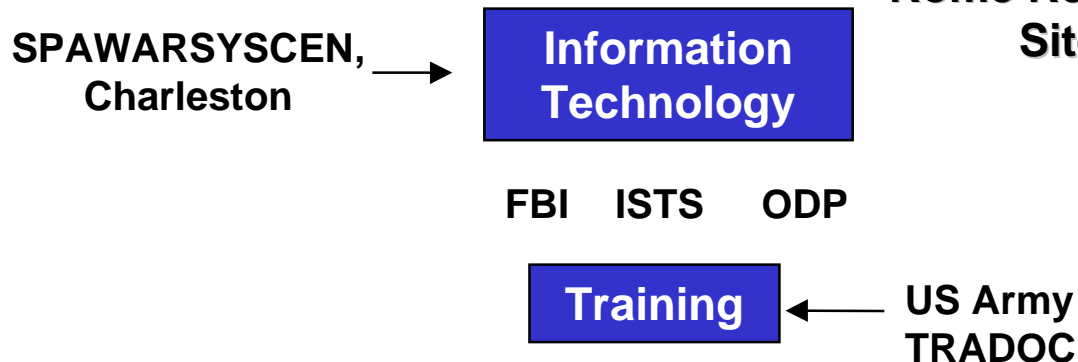
Major Partners

Explosive Detection & Remediation

Chemical and Biological Defense



Communications, IT & Training



Personnel Location



Infrastructure Security



Infrastructure Security

Center for Civil Force Protection

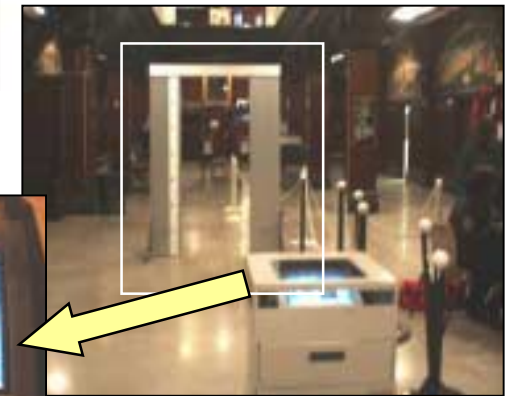
- Facility security design and assessment
 - ⇒ Single point resource
 - Juneau International Airport
 - ⇒ Juneau International Airport

Concealed Weapons Detection

- Initial focus on portal systems
 - ⇒ *SecureScan 2000* commercialized
 - Operational in Bannock County, ID
 - Demo in NYC School System
 - Eval by FAA
 - 2nd gen. being sold as *i-portal 100*
- Current focus on remote detection
 - ⇒ Prototype acoustic device developed
 - ⇒ Other systems being developed
 - Portable and handheld
 - Radar, IR and magnetic sensors



i-portal 100



SecureScan 2000 installed in the lobby of Washington Irving HS, NYC School System



2nd Generation JAYCOR Handheld Acoustic Weapons Detector



Trex Remote Weapons Detection System, demonstrated to NLECTC - NE RAC, Oct. 00

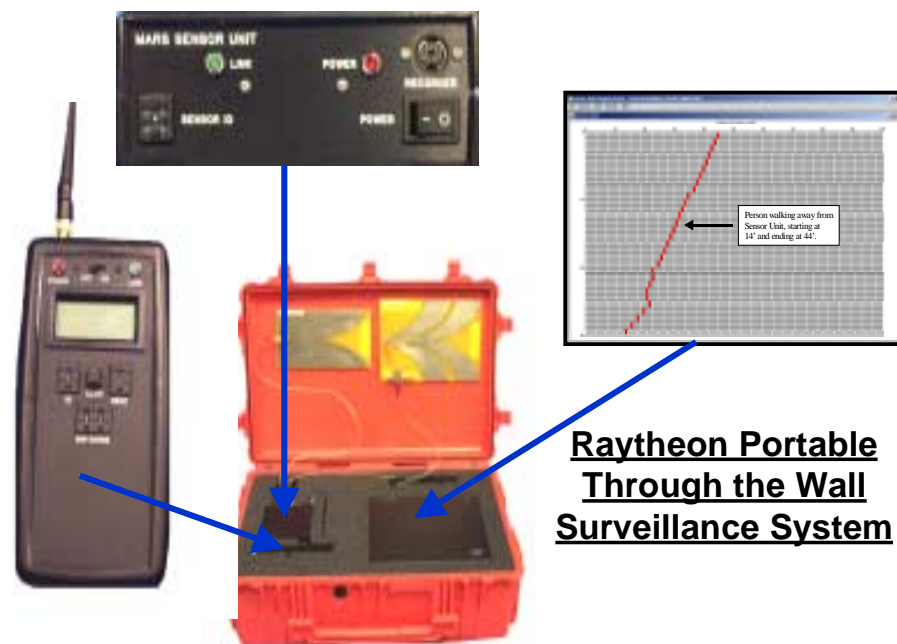
Personnel Location

Through The Wall Surveillance (TWS)

- Initial focus on detection and tracking
 - ⇒ Raytheon portable, radar-based system
 - Prototypes to be delivered in 2002
 - ⇒ GTRI handheld, radar-based
 - Prototype demoed with LEAs in '00
 - Commercialization efforts underway
- Efforts initiated in FY00 focus on:
 - ⇒ Mapping internal structure of buildings
 - ⇒ Locating individuals through metal walls
 - ⇒ Weapons detection and individual ID
- Working w TSWG, US Marine Corps and Army
- Discussions with FEMA and Fire Service

Incident Response

- Assess technology to locate individuals in urban disasters
 - ⇒ Pursue technology development if warranted



**Raytheon Portable
Through the Wall
Surveillance System**

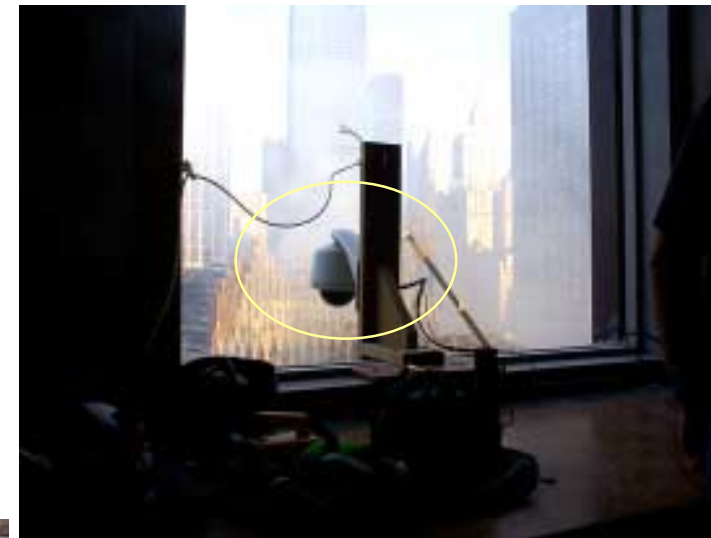
**2nd Generation
GTRI "Radar
Flashlight"**



WTC Response

- Provision of technical assistance to US&R Teams and FDNY
 - ⇒ Rapid technology modification
 - Void Search Camera
 - ⇒ New technology fielding
 - K-9 Search Camera
 - ⇒ Rapid technology fabrication
 - Pole Camera
 - ⇒ Installation of surveillance system for FDNY

Surveillance Camera



Void Search Camera



K-9Camera



Pole Camera

Explosive Detection and Remediation

IT & Training

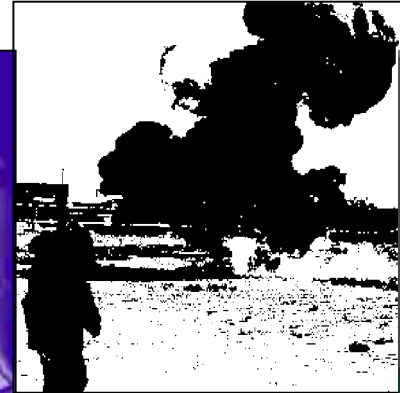
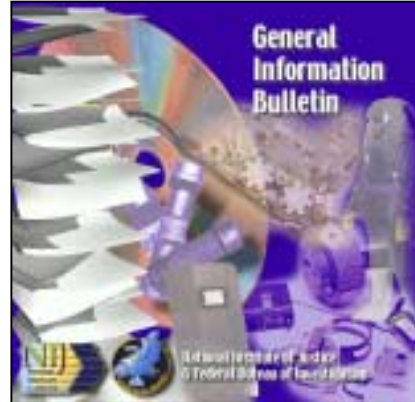
- 30-years of FBI TBs in CD format
 - ⇒ Distribution by FBI BDC
- New data products
 - ⇒ Meth labs, LVBs, etc.
- Wireless Palmtop
- Bomb Crime Scene Investigation Training Tool
- Critical Incident Response Tech. Seminars (CERTS)
 - ⇒ Threat and technology update for bomb squads
 - ⇒ TSWG, FBI, BATF

Robots

- Needs assessment done
- Vanguard eval. '02/'03
 - ⇒ With TSWG

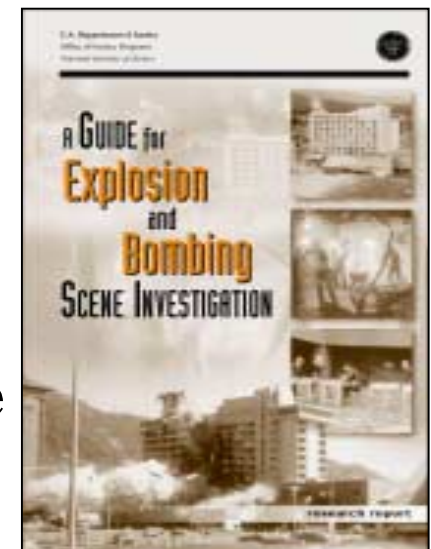


Vanguard



Standards & Assessments

- Bomb Scene Investigation Guide
- Bomb Suit, X-ray Diagnostic Systems, Explosive Detectors
- Pipe Bomb performance characterization
- Noise-Flash Diversionary Device assessment
- Bomb Containment Requirements Analysis



Explosive Detection and Remediation (Cont.)

Diagnostics

- Improved PC-based X-ray systems
⇒ Involves 27 states, TSWG & FBI



RTR- 3 X-ray
Diagnostic System



foxRay® II X-Ray Diagnostics
System

Detection

- Apply MMW technology to explosives detection



Conceptual MMW Detector

Disruption

- Safely disable large fuel-fertilizer bombs



Flying Plate Disrupter
on Tripod



Bomb (after
Disrupter impact)

Protection

- Chem-Bio ensemble for Bomb Techs
⇒ With TSWG



Med-Eng SRS-5

Communications, Information & Training Technology

Information Technology

■ User Centric Information Technology (UCIT)

⇒ Enable timely sharing of vital information among all levels of government

- Utilization of legacy systems
- Appropriate privacy and security

⇒ Counterterrorism information sharing

- Evaluation of analytical tools
- Joint effort w/FBI JTTF

⇒ Practitioner Action Teams

- Expert advisory group

■ Cyber Terrorism

⇒ Electronic Crime Partnership Initiative

⇒ Computer forensic tool validation

⇒ National Software Reference Library (NSRL)

⇒ Quick reference guides for E-crime Investigations

⇒ Best Practices for Seizing Electronic Evidence

■ Critical incident management testbed

⇒ DC EMA and ODP collaboration

⇒ Eval of 13 technologies underway

- Publication end of 2002

⇒ Eval of SiteProfiler and iMAPS initiated

⇒ Outreach to NYPD, NY - NJ Port Authority



Communications, Information & Training Technology (Cont.)

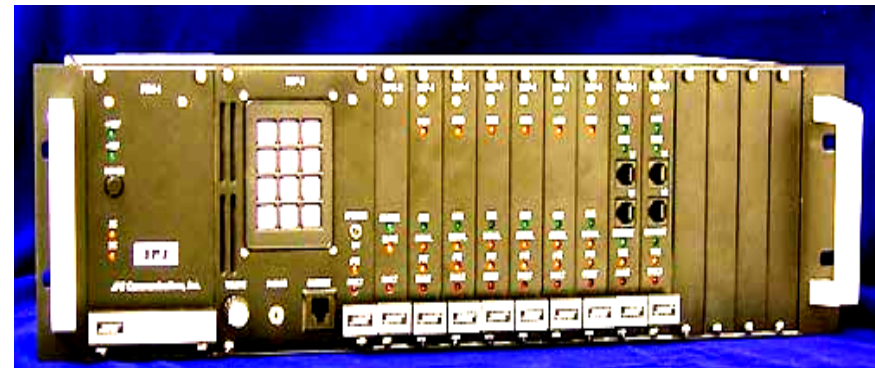
Training

- Emergency Preparedness and Command Simulation (EPICS)
 - ⇒ Leverages US Army Technology
 - ⇒ Three scenarios demoed in FY01
 - Chemical agent in subway
 - School crisis
 - Correctional center riot
 - ⇒ '02/'03 efforts focus on transition



Communications

- Test and assessment support of ODP ACU-1000 fielding
 - ⇒ Some 50 jurisdictions
 - ⇒ Alexandria, VA AGILE testbed



Chemical and Biological Defense

NIJ

Technology Development and Demonstration

- Wearable device, providing warning of unexpected hazards--Personal Alarm Monitor (PAM)
 - ⇒ Chem and Bio hazards
- Chemical warning system for subways
 - ⇒ In Washington, DC
 - ⇒ Being exported
 - ⇒ Part of DOE PROTECT Program

Standards Development

- First responder equipment standards suite
 - ⇒ First guide released Oct. '00
 - ⇒ First standard (SCBAs) Jan. '02



Sensor Installation in Subway



Sectional View of
PAM Prototype
Concept

Chemical Facility Vulnerability Assessment (VA)

- Methodology to assess vulnerability of chemical production infrastructure
- Report to Congress

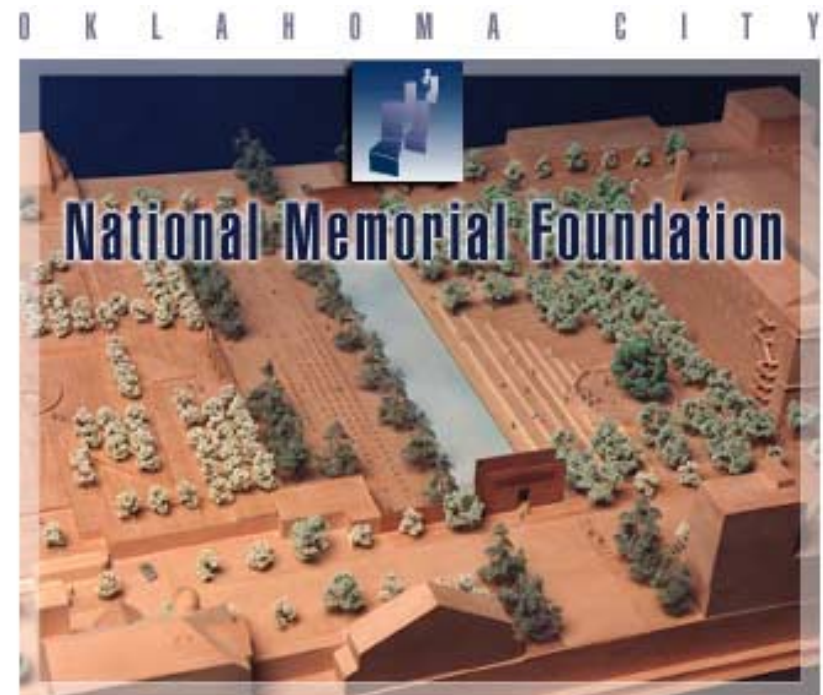
Domestic Threat Assessment

- Identify agents most likely to be used
 - ⇒ Chemical and biological
 - ⇒ Collaboration with TSWG & FBI
 - ⇒ Final report in 2003

Institutes

National Memorial Institute for the Prevention of Terrorism (MIPT)

- Established by Congress in 1999
 - ⇒ Partnership with the Oklahoma City National Memorial Foundation
- Coordinated with other Federal efforts through the Counterterrorism Institute Working Group
- Chartered to address the political and social causes and effects of terrorism as well as technology solutions
- National clearinghouse for terrorism information
- Other areas of endeavour
 - ⇒ Chemical and Biological defense
 - Includes health science issues, standards and protective equipment
 - ⇒ Database development

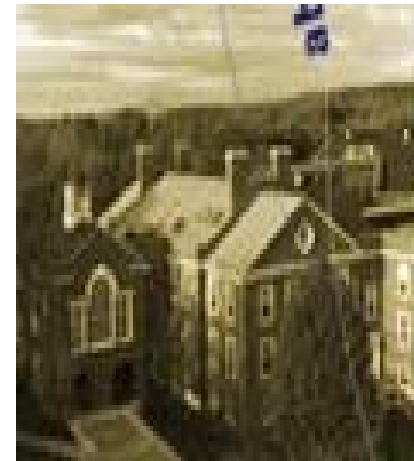


Institute for Security Technology Studies (ISTS)

NIJ

- Established by Congress in 1999
 - ⇒ Partnership with Dartmouth College
- Coordinated with other Federal efforts through the Counterterrorism Institute Working Group
- Focus on combating cyber terrorism
 - ⇒ Addresses threats to US electronic information infrastructure
 - Threat characterization and intelligence
 - Threat detection and interdiction
 - Preparedness, protection, response, and recovery
- Other areas of endeavor
 - ⇒ Training
 - ⇒ Chemical and biological defense

*Thayer School
of Engineering*
at Dartmouth College



Center on Catastrophe Preparedness and Response

NIJ

- Partnership with New York University
 - ⇒ Congressional direction in FY02 budget
- Coordinated with other Federal efforts through the Counterterrorism Institute Working Group
- Focus on biological threats
 - ⇒ Leverages NYU capabilities
 - Biomedical science, environmental health, public health, etc.
- Program being defined



Contacts

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